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CENTRAL INTELLIGENCE AGENCY

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50X1-HUM

SECURITY INFORMATION

## INFORMATION REPORT

REPORT

CD NO.

COUNTRY Germany (Russian Zone)

DATE DISTR. 19 March 1952

SUBJECT Description of ME Multiple Channel Communications  
Manufactured by VVB RFT

NO. OF PAGES 2

DATE OF INFO.

NO. OF ENCLS. 2 50X1-HUM  
(LISTED BELOW)

PLACE ACQUIRED

SUPPLEMENT TO REPORT NO. 50X1-HUM

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1. The ME apparatus is manufactured by VVB RFT in two forms, ME-3 and ME-8. In both types of apparatus LF speech from a subscriber is modulated at the transmitting end and then demodulated at the receiving end of the link.

2. Essential data on the ME apparatus is as follows:

	<u>ME-3</u>	<u>ME-8</u>
Carrier channels in one direction	9, 12, 15 kHz	6, 9, 12, 15, 18, 21, 24, 27 kHz
Simultaneous carrier channels in the opposite direction	21, 24, 27 kHz	36, 39, 42, 45, 48, 51, 54, 57 kHz.
Range (1)	340 km	200 km
Speech band	300 - 2,400 Hz.	
Bridgeable attenuation	6 Neper on cables 5 Neper on open line.	
Net attenuation (Restdaempfung)	0.8 Neper	
Power required by one installation	450 W	

3. Each subscriber is connected to a terminal rack (Endstellige) which holds all the switch gear, including current supply, for that subscriber. The subscriber is thus independent of all other speech channels. The carrier

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frequency channel is led to an additional rack over an HF directional switch; for ME-3, this is a W21, and for ME-8, a Wk 360. The additional rack also carries a LF switch near the directional switch, so that, in the case of exchange interference, direct speech (i.e. without the carrier) can still be carried on.]

4. Transmission and receiving with the ME apparatus.

a. Transmission

- 1) In the terminal rack, the speech frequency is led through a regulating resistance (S1) (2) to a LF amplifier; it is so amplified that, after passing through fork connections, resistances, equalizers (Entzerrer) and the LF bandfilter (NBF) needed to limit the speech band to the frequencies from 300 to 2,400 Hz, the ensuing dissipation can be balanced (ausgeglichen) and the normal level (Normalpegel) produced again.
- 2) This speech band is led to a push-pull rectifier modulator (Gleichrichter Gegentakt-Modulator); this modulates the HF generated in the carrier generator (TG) with the speech band and at the same time suppresses the carrier.
- 3) A HF amplifier raises the level (Pegel) to an appropriate value, so that the speech band can be carried over a given distance.

b. Receiving

- 1) In the receiving station, the carrier frequency band for a corresponding receiver (Geraet) is filtered through the receiver filter (EF) and then led through the level control (Pegelregler) (R2) to an amplifier.
- 2) In the demodulator the suppressed carrier is built up and the speech frequency received in its original form.
- 3) The following LF band filter (NBF) passes the speech band from 300-2,400 Hz and leads it on over a regulating resistance (S2) to the LF amplifier and the fork connection and thence on to the exchange (Vermittlung) or subscriber.

(1)   Comment: These ranges apply when copper-free lines of 3 mm diameter are used. 50X1-HUM

(2)   Comment: The letters in parentheses throughout paragraph 4 refer to corresponding abbreviations in Attachment 2. 50X1-HUM

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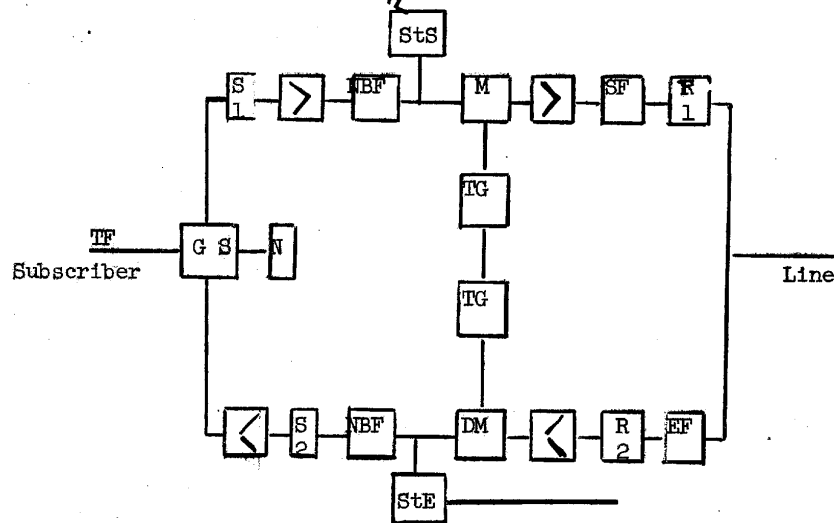
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ATTACHMENT 1

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ATTACHMENT 2



GS	Gabelschaltung	fork connection
TF	Traegerfrequenz	carrier frequency
N	Nachbildung	balancer
S1, S2	Reglerwiderstaende	regulating resistances
NBF	Niederfrequ.Bandf.	LF band filter
StS	Steuertonsender	control voice transmitter
M	Modulator	modulator
TG	Traegergenerator	carrier generator
R1	Reglerwiderstand	regulating resistances
SF	Sendefilter	transmission filter
EF	Empfangsfilter	receiving filter
R2	Pegelregler	level control
DM	Demodulator	demodulator
StE	Steuertonempaenger	control voice receiver

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